

REMARKS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

Claims 1-14 are now pending.

Applicant notes the Examiner's approval of the proposed drawing correction. Formal drawings including the approved changes are attached.

Claim 2 was objected because of an informality. Claim 2 has been amended to remove the noted informality. Therefore, withdrawal of the claim objection is respectfully requested.

Claims 4, 7, 9, and 10 stand rejected under 35 U.S.C. 102(b) as being anticipated by Katoh et al. (US Patent 5, 456,022). Applicant respectfully traverses this rejection.

Regarding claim 4, the Examiner asserts that Katoh disclosed in Figure 6 and throughout the disclosure, a spark plug comprising: a tubular housing, a central bar electrode; a stress releasing layer (19), a chip (11), and "[a] weld portion (15; diffusion layer) formed between the base material and the chip with materials of the base material". However, as shown in Fig. 6 of Katoh, the diffusion layer 15A is between the chip 11A and the relieving layer 19A. Therefore, in Katoh the diffusion layer 15A may include the components of the chip 11A and the relieving layer 19A (only). On the other hand, as shown in Fig. 11A of the present invention, the weld layer 90 is between the chip 50 and the central electrode 30. Accordingly, as claimed in claim 4, the weld layer 90 includes the components of the chip 50, the stress releasing layer 31, and the central electrode 30. Thus, the spark plug defined by claim 4 is totally different from the cited reference Katoh.

Regarding claim 7, the chip 50 is claimed as fixed to the base material 30. On the other hand, in Katoh, the chip 11A is fixed to the relieving layer 19 instead of the base material. Further, in claim 7, the chip is fixed to the base material by forming a weld layer at an interface portion of the base material, the stress releasing layer, and the chip. On the other hand, in Katoh, the diffusion layer 15A is formed at the interface portion of the chip and the relieving layer 19A. Thus, the method of producing a spark plug defined by claim 7 is totally different from Katoh.

Regarding claim 10, the spark plug defined by claim 10 has the feature that the weld portion is arranged around the stress releasing layer. On the other hand, for example, in Fig. 6 of Katoh, the diffusion layer 15A is not arranged around the relieving layer 19. Thus, the spark plug defined by claim 10 is totally different from Katoh.

In view of the foregoing, reconsideration and withdrawal of the rejection of claims 4, 7, 9 and 10 is requested.

Claims 11-14 have been added.

New claim 11 is supported at page 12, lines 7 to 8 and provides that a weld layer 90 having a ring shape (Figs. 11A, 2B) surrounds the stress releasing layer 80 between the base material 30 and the chip 50 and includes materials of the base material 30, the stress releasing layer 80, and the chip 50 to fix the chip 50 to the base material 30. This feature is not disclosed in Katoh.

New claim 12 is supported at page 12, lines 23 to 26 and provides that the weld layer 90 has an outer interface surface connecting an outer surface of the chip and an outer surface of the base material and inwardly protrudes from the outer interface surface to the stress releasing layer 80 as shown in Fig. 11A. On the other hand, Katoh fails to disclose this feature. Thus, the spark plug defined by claim 12 is different from Katoh.

New claim 13 is supported at page 12, lines 7 to 8 and provides that the chip 50 is fixed to the base material 30 by forming a weld layer 90 having a ring shape (Figs. 11A, 2B) surrounding the stress releasing layer 80 between the base material 30 and the chip 50 and including materials of the base material 30, the stress releasing layer 80, and the chip 50 to fix the chip 50 to the base material 30. On the other hand, Katoh fails to disclose this feature. Thus, the spark plug defined by claim 13 is different from Katoh.

New claim 14 is supported at page 12, lines 23 to 26 and provides that the chip 50 is fixed to the base material 30 by forming a weld layer 90 between the base material 30 and the chip 50, wherein the weld layer 90 includes materials of the base material 30, the stress releasing layer 80, and the chip 50, has an outer interface surface connecting an outer surface of the chip 50 to an outer surface of the base material 30, and inwardly protrudes from the outer interface surface to the stress releasing layer 80. On the other hand, Katoh fails to disclose this feature. Thus, the spark plug defined by claim 14 is different from Katoh.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

Respectfully submitted,

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